

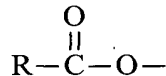
## WHAT IS CLAIMED IS:

1. A method for the preparation of a non-finished textile component comprising the steps of providing a non-finished textile component, saturating said textile component with an aqueous bleaching solution comprising hydrogen peroxide and a hydrophobic bleaching agent, and allowing said bleaching solution to remain in contact with said textile component for a period of time sufficient to bleach said textile component wherein the resultant treated textile component has a whiteness value on the CIE index of at least about 70 or a fiber degradation increase of less than 25%

2. The method as claimed in Claim 1 wherein said hydrophobic bleaching agent is a hydrophobic bleach activator or a hydrophobic pre-formed peracid.

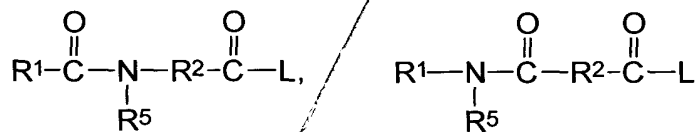
3. The method as claimed in Claim 2 wherein said bleaching solution comprises hydrogen peroxide and a hydrophobic bleach activator selected from the group consisting of:

- a) a bleach activator of the general formula:



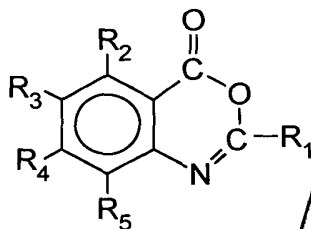
wherein R is an alkyl chain having from about 5 to about 17 carbon atoms and L is a leaving group;

- b) a bleach activator of the general formula:



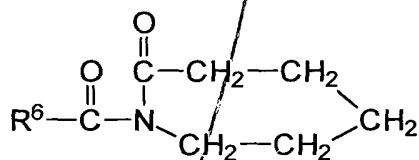
or mixtures thereof, wherein R<sup>1</sup> is an alkyl, aryl, or alkaryl group containing from about 1 to about 14 carbon atoms, R<sup>2</sup> is an alkylene, arylene or alkarylene group containing from about 1 to about 14 carbon atoms, R<sup>5</sup> is H or an alkyl, aryl, or alkaryl group containing from about 1 to about 10 carbon atoms, and L is a leaving group;

- c) a benzoxazin-type bleach activator of the formula:



wherein  $R_1$  is H, alkyl, alkaryl, aryl, arylalkyl, and wherein  $R_2$ ,  $R_3$ ,  $R_4$ , and  $R_5$  may be the same or different substituents selected from H, halogen, alkyl, alkenyl, aryl, hydroxyl, alkoxy, amino, alkylamino,  $-COOR_6$ , wherein  $R_6$  is H or an alkyl group and carbonyl functions;

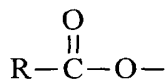
d) a N-acyl caprolactam bleach activator of the formula:



wherein  $R^6$  is H or an alkyl, aryl, alkoxyaryl, or alkaryl group containing from 1 to 12 carbons; and

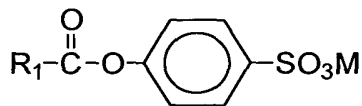
e) mixtures of a,b,c and d.

4. The method as claimed in Claim 3 wherein said hydrophobic bleach activator is a bleach activator selected from the general formula:



wherein R is an alkyl chain having from about 7 to about 12 carbon atoms and L is a leaving group the conjugate acid of which has a pKa from about 4 to about 13.

5. The method as claimed in Claim 4 wherein said bleach activator is an alkanoyloxybenzenesulfonates of the formula:

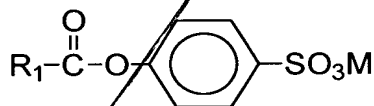


wherein  $R_1$  is an alkyl group having from about 7 to about 11 carbon atoms and M is a suitable cation.

6. The method as claimed in Claim 1 wherein said bleaching solution further includes an ingredient selected from the group consisting of wetting agents, sequestering agents, stabilizing agents, desizing agents, scouring agents and mixtures thereof.
7. The method as claimed in Claim 3 wherein said bleaching solution contains from about 1 to about 20 g/L of hydrogen peroxide.
8. The method as claimed in Claim 3 wherein the molar ratio of hydrophobic bleach activator to hydrogen peroxide in said bleaching solution ranges from about 1:1 to about 1:50.
9. The method as claimed in Claim 1 wherein said textile component to remains in contact with said bleaching solution for from about 15 to about 180 minutes.
10. The method as claimed in Claim 9 wherein said bleaching solution is at a temperature of from about 20 to about 90 °C .
11. The method as claimed in Claim 8 wherein said bleaching solutions is at a temperature of from about 50 to about 80 °C and said textile component remains in contact with said bleaching solution for from about 30 to about 60 minutes.
12. The method as claimed in Claim 1 wherein said bleaching solution further comprises from about 0.5 to about 20 g/L of sodium hydroxide.
13. The method as claimed in Claim 8 wherein the ratio of said bleaching solution to said textile component is from about 5:1 to about 100:1.
14. The method as claimed in Claim 1 wherein said textile component experiences a fabric strength reduction of less than about 10% during said method.
15. The method as claimed in Claim 12 wherein said treated textile component experiences a fiber degradation increase of less than about 25%.

16. The method as claimed in Claim 1 further comprising the step of de-sizing said non-finished textile component prior to contact with said bleaching solution.
17. The method as claimed in Claim 1 further comprising the step of scouring said non-finished textile component prior to contact with said bleaching solution.
18. A method for the batch preparation of a woven textile fabric comprising the steps of:
- providing an incoming non-finished woven fabric;
  - passing said fabric to an aqueous bleaching solution, said bleaching solution comprising a mixture of hydrogen peroxide and a hydrophobic bleach activator or a pre-formed hydrophobic activator, heating said bleaching solution to a temperature of from about 20 to about 90 °C and allowing said bleaching solution to contact said fabric for a period of time of from about 15 to about 180 minutes.

19. The method as claimed in Claim 18 wherein said bleach activator is an alkanoyloxybenzenesulfonates of the formula:



wherein R<sub>1</sub> has from about 5 to about 17 carbon atoms and M is a suitable cation.

20. The method as claimed in Claim 18 wherein said bleaching solution further includes an ingredient selected from the group of wetting agents, sequestering agents, stabilizing agents, de-sizing agents, scouring agents and mixtures thereof.
21. The method as claimed in Claim 18 wherein said bleaching solutions is at a temperature of from about 50 to about 80 °C and said textile component remains in contact with said bleaching solution for from about 30 to about 60 minutes.
22. The method as claimed in Claim 18 wherein said bleaching solution contains from about 1 to about 20 g/L of hydrogen peroxide.

23. The method as claimed in Claim 18 wherein the molar ratio of hydrophobic bleach activator to hydrogen peroxide in said bleaching solution ranges from about 1:1 to about 1:50.
- 24. The method as claimed in Claim 18 wherein said textile component to remains in contact with said bleaching solution for from about 30 to about 60 minutes.*
25. The method as claimed in Claim 18 wherein said bleaching solution is at a temperature of from about 50 to about 80 °C.
26. The product produced by the process of Claim 1.
27. The product produced by the process of Claim 18.
28. A substrate comprising a collection of non-finished bleached textile components wherein said substrate has a whiteness value on the CIE index of greater than about 70 and has experienced a fabric strength reduction of less than about 10%.
- 29. The substrate as claimed in Claim 28 wherein said treated textile component experiences a fiber degradation increase of less than about 25%.*
30. The substrate as claimed in Claim 28 wherein said substrate has a wettability index of less than about 10%.
31. A method for improving the wettability loss of textile components comprising the steps of:
- a) providing an incoming non-finished woven fabric;
  - b) passing said fabric to an aqueous bleaching solution, said bleaching solution comprising a mixture of hydrogen peroxide and a hydrophobic bleach activator or a pre-formed hydrophobic activator, heating said bleaching solution to a temperature of from about 20 to about

90 °C and allowing said bleaching solution to contact said fabric for a period of time of from about 15 to about 180 minutes.

32. The method as claimed in Claim 1 wherein said resultant treated textile component has a whiteness value on the CIE index of greater than about 70.

33. The method as claimed in Claim 1 wherein said non-finished textile component fibers selected from the group consisting of cotton, linen, jute, wool, silk, rayon, lyocell and combinations thereof.

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